

AMENDMENTS TO THE CLAIMSLISTING OF CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

--1. (Previously Presented) A multi-carrier signal transmission apparatus for transmitting a signal in which first information necessary for synchronizing a transmission signal is disposed at a predetermined interval in second information, said apparatus comprising:

data arrangement means for arranging said first information and said second information;

first modulation means for generating a transmission symbol stream by modulating data created by said data arrangement means;

symbol generating means for expanding said transmission symbol stream generated by said first modulation means on a frequency axis to generate a symmetrical transmission symbol stream that is symmetrical on said frequency axis; and

second modulation means for converting said symmetrical transmission symbol stream generated by said symbol generating means by performing reverse Fourier transformation.

--2. (Previously Presented) The multi-carrier signal transmission apparatus according to claim 1, wherein said data arrangement means disposes said first information and said second information alternately.

--3. (Currently Amended) The multi-carrier signal transmission apparatus according to claim 1, wherein using a center symbol at ~~said~~ a reference frequency position of said transmission symbol stream as a center, said symbol generating means expands symbols of said transmission symbol stream other than said center symbol symmetrically on said frequency axis.

--4. (Amended) A multi-carrier signal reception apparatus for receiving a multi-carrier signal including first information necessary for synchronizing a transmission signal and second information, said apparatus comprising:

memory means for storing one of a real number portion and an imaginary number portion in said first information;

delay means for delaying a received symbol stream by a predetermined time period;

a filter for extracting said first information using said reception symbol stream delayed by said delay means and a reception symbol stream that is not delayed;

a correlator for correlating an output of said filter and one of said first information of said real number portion and said imaginary number portion stored in said memory means; and

determining means for detecting a synchronism depending on a peak position of a correlation value of said correlator.

--5. (Amended) The multi-carrier signal reception apparatus according to claim 4, wherein when a processing time of a single unit for Fourier-transforming the multi-carrier signal is a single modulation time, said predetermined time period used by said delay means is set at $1/2$ said single modulation time.

--6. (Amended) A multi-carrier signal transmission apparatus for transmitting first information necessary for synchronizing a transmission signal and second information as a multi-carrier signal, said apparatus comprising:

modulation means for selectively generating a first transmission symbol stream by said first information and a second transmission symbol stream by said second information; and

symmetrical transmission symbol stream generating means, wherein said transmission symbol stream based on said first information and generated by said modulation means is a symmetrical transmission symbol stream that is expanded symmetrically on a frequency axis with a predetermined frequency position as a reference.

--7. (Amended) The multi-carrier signal transmission apparatus according to claim 6, wherein using a center symbol at said reference frequency position of said transmission symbol stream as a center said modulation means expands symbols of said transmission symbol stream other than said center symbol

symmetrically on said frequency axis.

--8-9. (Cancelled).--